

group (MKB manufactured by ATOFINA CHEMICALS, Inc.) was used as the binder for the positive electrode and that a particulate rubber (BM400B manufactured by Nippon Zeon Co., Ltd.) containing a styrene unit, butadiene unit, 2-ethylhexyl acrylate unit and acrylonitrile unit was used as the binder for the negative electrode.

EXAMPLE 8

A polymer battery was produced in the same manner as in Example 1 except that a modified copolymer of vinylidene fluoride-hexafluoropropylene was used as the binder for the positive electrode.

EXAMPLE 9

A polymer battery was produced in the same manner as in Example 1 except that an ethylene-acrylate copolymer containing 80 wt% of ethylene unit was used as the binder for the negative electrode.

EXAMPLE 10

A polymer battery was produced in the same manner as in Example 1 except that polyvinylidene fluoride (301F manufactured by ATOFINA CHEMICALS, Inc.) was used as the binder for the positive electrode and that a copolymer of vinylidene fluoride-hexafluoropropylene (2801 manufactured by ATOFINA CHEMICALS, Inc.) was used as the binder for the

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negative electrode.

COMPARATIVE EXAMPLE 1

A polymer battery was produced in the same manner as in Example 1 except for the following: a paste for the separator layer was prepared by dispersing 30 parts by weight of a fine powder of silicon dioxide having a hydrophobic surface (RX200 manufactured by Nippon Aerosil Co., Ltd.) into a solution prepared by dissolving 100 parts by weight of a copolymer of vinylidene fluoride-hexafluoropropylene (2801 manufactured by ATOFINA CHEMICALS, Inc.) into 100 parts by weight of NMP, the polymerization initiator V-65 was not added to the liquid organic electrolyte, and the heating at 60 °C for 1 hour was omitted.

COMPARATIVE EXAMPLE 2

A polymer battery was produced in the same manner as in Comparative Example 1 except that polyethylene oxide (average molecular weight: 200,000) was used in place of the copolymer of vinylidene fluoride-hexafluoropropylene.

EXAMPLE 11

A polymer battery was produced in the same manner as in Example 1 except that ethylene glycol dimethacrylate (molecular weight: 198) was used in place of the polyethylene glycol diacrylate having an average molecular weight of 1,100

and that the content of the ethylene glycol dimethacrylate portion in the obtained copolymer was controlled to be 12 wt%.

EXAMPLE 12

A polymer battery was produced in the same manner as in Example 1 except that polyethylene glycol diacrylate having an average molecular weight of 3,000 was used in place of the polyethylene glycol diacrylate having an average molecular weight of 1,100 and that the content of the polyethylene glycol diacrylate portion in the obtained copolymer was controlled to be 15 wt%.

EXAMPLE 13

A polymer battery was produced in the same manner as in Example 1 except that the content of the polyethylene glycol diacrylate portion in the obtained copolymer was controlled to be 0.5 wt%.

EXAMPLE 14

A polymer battery was produced in the same manner as in Example 1 except that polyethylene glycol diacrylate having an average molecular weight of 3,000 was used in place of the polyethylene glycol diacrylate having an average molecular weight of 1,100 and that the content of the polyethylene glycol diacrylate portion in the obtained copolymer was controlled to be 40 wt%.